

also occur in the soil beneath. The dark colored, oval, oblong cocoons spun by the larvae, to which particles of sand and dust are attached, were sifted from the nest material and from sand; mature larvae were in the cocoons early in June and on June 28, 1916. These numerous fleas must be very troublesome to both old and young birds. This flea is closely related to *Ceratophyllus gallinae*, but apparently is distinct.

Lepidopterous larvae were found in the feathers of the nest material but were not common. They were determined by C. Heinrich as a species of the family *Tineidae*. These larvae feed on the feathers.

Hymenopterous parasites were reared from the nest material; probably they were parasitic on the Lepidopterous larvae.

On the nearly mature nestlings parasitic Mallophaga were found to be common. The species is *Menopon dissimile* Kellogg, according to J. H. Paine. This parasite also occurs on the purple martin (*Progne subis*), a bird which probably once nested in holes in cliffs. The Mallophaga may be more easily located on the outstretched wings of the birds; they rapidly retreat to the base of the feathers when exposed.

Adults of the Staphylinid beetle were found flying about the entrance to the swallows' nests at 6 P.M. on July 11, 1916.

On June 22, 1918, the swallows' nests were again visited. Larvae of the Staphylinid *Microglotta* and larvae and cocoons of the flea *Ceratophyllus* were common.

H. S. Barber on a later trip June 27, 1918, with T. E. Snyder, found the young of an antlion, which he believes to be *Dendroleon* sp., on the soil beneath nest material. The young had not dug a pit but was free, being covered, however, with debris and dried bodies of its prey. It is undoubtedly predaceous on other insect life in the nests. At this date most of the birds were able to fly and had left the nests.

In order to know in what conditions the nests were in the winter, on December 23, 1918—a bright warm day—the nests were visited. One living adult flea was the only insect found in the nests—which the birds had abandoned in the autumn. Flea cocoons found were all empty. The nest material and the soil beneath were carefully sifted, the ground not being frozen.

NEW GENERA AND SPECIES OF ICHNEUMON FLIES (HYM.).

BY R. A. CUSHMAN, *Bureau of Entomology, Washington, D. C.*

This paper contains the descriptions of three new genera, three new species, and a new variety of Ichneumonidae and one new species of Braconidae.

Genus *Derocentrus*, new genus.

Runs in Ashmead's key to *Nematopodius* and is probably what he used in the construction of his key to the Mesostenini; but is conspicuously different from the genotype, *Nematopodius formosus* Gravenhorst. The ovipositor is much longer than the body; the first tergite not parallel-sided, but has the postpetiole much broader and higher than the petiole and the spiracle much behind the middle; and the other tergites broad, not long and narrow. Also the antennal annulus embraces flagellar joints 6-9, not 15-16 as in *formosus*; the front coxae normal, without a transverse ridge on the outside; the pronotum short medially; the propodeum not extending beyond the base of the coxae, the basal carina strongly angulate medially; the second joint of hind trochanters nearly twice as long as first joint. In all the species referable here the entire insect is without contrastingly colored maculation except more or less blackish stains principally in the alar region, and the head and thorax are sculptured.

The following generic description is based entirely on the female, the male being unknown.

Slender, with legs and antennae long and slender, abdomen clavate, ovipositor much longer than body. Head transverse; temples strongly convex, much narrower than eyes; frons deeply concave; eyes large, subparallel within; face with oblique impression each side of middle; clypeus broad, convex, broadly subtruncate; labrum exerted; teeth of mandibles of equal length; malar space nearly as long as basal width of mandible; thorax shining, punctured; notauli deep, meeting on disk of mesoscutum; propodeum subconcave behind, basal carina strong, strongly angulate medially; basal area small quadrate; apical carina distinct laterally, obsolete to wanting medially as is also that portion of median longitudinal carina lying between the transverse carinae; wings long, stigma narrow lanceolate; areolet very small, much longer than wide, second intercubitus incomplete; second recurrent slightly antefurcal with respect to the second intercubitus; legs very slender; hind trochanters half as long as femur, second joint cylindrical and nearly twice as long as first; basitarsus as long as other joints combined, apical joint shorter than third; abdomen long, clavate, polished; first tergite completely fused with sternite, spiracles at apical two-fifths; postpetiole slightly wider than petiole; second tergite subsequential in length to first, constricted at base, much wider at apex; other tergites barely half as long as second, broader than long; ovipositor nearly or quite twice as long as body; lanceolate at apex.

Uniform ferruginous with more or less black in alar region, antennae black, ferruginous at base, with an incomplete white annulus embracing more or less of flagellar joints 6-9; wings suffused with brownish.

Type.—(*Coleocentrus*) *Nematopodius texanus* (Ashmead).

Derocentrus texanus (Ashmead).

Mesostenus longicaudis Cresson, Trans. Am. Ent. Soc., vol. 4, 1872, p. 164, (not Brullé).

Coleocentrus texanus Ashmead, Proc. U. S. Nat. Mus., vol. 12, 1890, p. 444.

Mesostenus macrurus Dalla Torre, Cat. Hym., vol. 3, 1901-1902, p. 544.

(New name for *longicaudis* Cresson, not Brullé.)

Nematopodius exclamans Viereck, Trans. Kans. Ac. Sci., vol. 19, 1904, p. 318.

Nematopodius longicaudus Viereck, loc. cit., p. 318.

Careful comparison of fourteen specimens from Texas, New Mexico, Colorado, Kansas, Maryland, and Virginia, including Cresson's type, Ashmead's paratype, and a homotype (Gahan) of Viereck's specimen discloses no differences of specific value. There is considerable variation in the propodeal carinae, the sides of the areola and the median portion of the apical carina being weakly developed or absent; and the black color of the thorax is as described by Viereck to entirely absent.

Ashmead's type has disappeared unless, as I suspect, it is the same specimen as Cresson's type.

Derocentrus gracilipes (Cresson).

Mesostenus gracilipes Cresson, Proc. Ac. Nat. Sci. Phila., 1878, p. 365.

Nematopodius gracilipes Viereck, Trans. Kans. Ac. Sci., vol. 19, 1904, p. 318.

There is nothing in the description of this species to distinguish it from *texanus* (Ashmead), and no specimen is available for comparison.

Genus **Cyrtobasis**, new genus.

In Foerster's, Ashmead's, and Schmiedeknecht's keys to Hemitelini runs to *Naëtes* Foerster, but the type is apparently not congeneric with the genotype of *Naëtes* and only included species, *Naëtes rufus* Brischke, differing structurally from the original description of that species as follows: propodeum with posterior face concave, the bounding carina very high and angulate on each side, median longitudinal carina lacking except at base, the areola open at the sides; first tergite with strong dorsal carinae; ovipositor not nearly as long as abdomen. Certain of the color characters mentioned by Brischke which I believe to be of generic value are also lacking in the present genus: antennae not annulated; wings not fasciate.

Body robust, densely, coarsely sculptured; head strongly transverse, temples flat and narrow; vertex broad, ocelli in a very low triangle; eyes parallel within; face broad, convex, with a median rounded elevation; clypeus barely distinct from face, broadly truncate; mandibles short, stout, and with very small teeth; malar space long; checks convex; antennae nearly as long as body, somewhat thickened beyond middle and tapering to the apex; first two joints

of flagellum about three times as long as broad, subequal in length, other joints gradually shorter to apex; notauli shallow but distinct; sternauli deep but ending abruptly in middle of pleura; scutellum slightly convex, immar-gined; propodeum declivous concave behind with prominent lateral angles, basal median area large, nearly as long as areola, areola hexagonal in position but open laterally, though sometimes adventitiously closed by the longitudinal rugosity, median longitudinal carinae also lacking behind apical carina; areolation otherwise complete; spiracles small, round, legs slender; stigma narrow, lanceolate, radius slightly before middle; second intercubitus entirely lacking; third discoidal cell very broad at base; nervulus very oblique, strongly recurved below middle; nervellus strongly antefurcal, sharply broken below middle; first tergite evenly widening from base to apex, not separated into petiole and postpetiole, slightly decurved and strongly arched, almost swollen, above, with strong converging dorsal carinae extending nearly to apex, lateral carinae distinct from base to apex; middle tergites strongly transverse, subcallose apically; ovipositor short, the sheath subclavate.

Type.—*Cyrtobasis rogae*, new species.

Cyrtobasis rogae, new species.

Female.—Length 8 mm. antennae 6.5 mm., ovipositor 1.25 mm.

Head opaque; temples and cheeks polished, sparsely punctured; vertex behind ocelli arcuately rugose; frons above obliquely and below transversely rugose; face finely, densely punctate and pilose; malar space somewhat longer than basal width of mandible; thorax opaque; pronotum and mesopleura partly polished; pronotum rugoso-punctate; mesoscutum minutely punctato-shagreened, rugose in region of notauli; scutellum punctate; mesopleura and sternum densely punctate, more or less rugosely so around margins; metapleura and propodeum densely punctate, basal area polished; abdomen densely, coarsely punctate; first tergite nearly as wide at apex as long, polished between dorsal carinae and at apex, striate at sides; other tergites polished at apex; second a little more than half as long as wide and with a very shallow broad transverse impression beyond middle, others progressively shorter; ovipositor about as long as first tergite.

Black; mandibles rufous; palpi, front coxae trochanters, apical external spot on front femur, apical joint of middle trochanter, anterior dorsal margin of pronotum, tegulae, and wing-bases white; hind tibiae at apex and their tarsi black; legs otherwise testaceous; wings hyaline, venation blackish; tergites narrowly piceous at apex; sheath black.

Host.—*Rogas* spp.

Type locality.—Flagstaff Mt., Boulder, Colorado.

Other localities.—Riley County, Kansas, and Lake Forest, Illinois.

Type.—Cat. No. 19176, U. S. N. M.

Described from three females; the type reared from a *Rogas*

cocoon, March, 1910, by T. D. A. Cockerell; paratype *a* reared from a *Rogas* cocoon, April 17, by E. A. Popenoe; and paratype *b* from Lake Forest, Illinois, August 4, 1899, and bearing the label "Ceph. occ." (*Cephus occidentalis?*). Both paratypes are practically like the type. The two paratypes are labelled in Ashmead's hand as belonging to his genus *Neopimpla*, the undescribed type of which was from South Africa. If arbitrarily placed in the Ichneumonini the species will run by default to *Neopimpla*, but to me it has neither the characters nor the general appearance of the Ichneumonini, but is distinctly Cryptine.

Genus *Atopognathus*, new genus.

In existing keys this very peculiar genus can run nowhere except to the Mesoleptini, where, in venational, body, and, leg characters, it is very similar to *Eclytus* Holmgren as represented especially by *pleuralis* (Provancher) and *perennis* Davis, both of which differ from the genotype, *Eclytus ornatus* Holmgren, in lacking the second intercubitus. But the head is much more like that of *Ischnopsidea* Viereck (= *Ischnus* Authors, not Gravenhorst), *Heterischnus* Wesmael, and *Oronotus* Wesmael. In short, it apparently stands between the Phaeogenini and the Mesoleptini as now constituted. In the Phaeogenini, because of the obtuse abdomen and upcurved ovipositor, it agrees best with *Heterischnus*, but the abdomen is really very different in form, the antennae are much longer, and it differs in many other respects from specimens of *Heterischnus rufipes* Wesmael as determined by Schmiedeknecht.

For the present, in view of its closer agreement with the Mesoleptini on the characters usually used in keys, it seems better to assign *Atopognathus* to that tribe, in spite of the very anomalous mandibles.

Head broad behind eyes; eyes slightly convergent below; clypeus submarginately truncate at apex, subconvex, separated from the face by a shallow groove; mandibles sickle-shaped, edentate at apex, but with a large, strong tooth on inner margin; antennae filiform, about as long as body, flagellum about 25-jointed, basal joints several times longer than thick, the joints gradually decreasing in length until near the apex they are only about twice as long as thick, female with a white annulus embracing joints 9-12; thorax nearly as in *Eclytus* Holmgren; notauli and sternali distinct; scutellum elevated; propodeum completely areolated, the areola broad: venation as in *Eclytus* except that the second intercubitus is lacking and radius originates beyond middle of stigma; legs as in *Eclytus* with basal joint of front trochanters and basitarsus of all legs very long, the latter nearly or quite as long as other joints combined, tibial spurs small; abdomen similar to that of *Eclytus* but first tergite narrower, slightly decurved, and with the spiracles strongly

tuberculate, situated at about the middle; tergites beyond fifth in female, sixth in male, scarcely visible; hypopygium in female reaching to apex of abdomen; ovipositor exerted, slightly upcurved; male genital sheaths exerted, narrow.

Type.—*Atopognathus collaris*, new species, described below.

***Atopognathus collaris*, new species.**

Female.—Length 5.5 mm.; antennae 5 mm.

Head and thorax clothed with rather dense white pubescence; head polished, face and elypeus very minutely punctate; eyes about as long as their distance apart at the antennae; malar space about as long as basal width of mandible; thorax polished but so densely pubescent that it appears opaque; notauli crenulate; propodeum polished; petiolar area about as long a rest of dorsal surface; areola about two-thirds as broad as long, costulae very close to base; abdomen polished; first tergite comprising about one-third total length, about twice as wide at apex as at base, postpetiole obscurely striate and medially canaliculate, spiracles slightly behind middle; second tergite slightly shorter than first; third, two-thirds as long as second; others very short.

Black; clypeus rufous; mandibles stramineous, the teeth blackish; palpi stramineous; antennae rufous at base, otherwise blackish with annulus white; prothorax and tegulae rufous; wings hyaline, venation brown; legs testaceous, front and middle trochanters and tibiae stramineous; hind tibiae

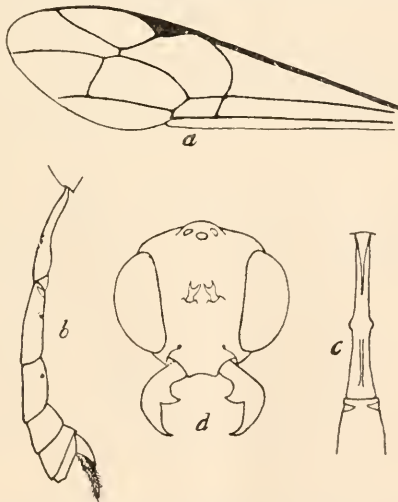


FIG. 1—*Atopognathus collaris* CUSHMAN. a—Front wing, b—Side view of abdomen, c—Dorsal view of first and second tergites, d—Front view of head.

infusate basally and apically, their tarsi fuscous; abdomen piceous, tergites narrowly reddish apically.

Male.—Length 4.5 mm.; antennae 4.5 mm.

Differs from female in practically no way except in sexual characters.

Type-locality.—Rosslyn, Virginia.

Other localities.—Georgetown, D. C., and Coleta, Alabama.

Type.—Cat. No. 19178, U. S. N. M.

Described from two females from Rosslyn, Virginia, one male from Georgetown, D. C., and one male from Coleta, Alabama, all collected by H. H. Smith.

The paratypes are very like the type and allotype, but slightly larger in each sex.

***Labrossyta ruficoxalis*, new species.**

Differs from *frontosa* Davis most conspicuously in having the hind coxae testaceous instead of black.

Female.—Length 6 mm., antennae 5 mm.

Head transverse, broad and strongly convex behind the eyes, subopaque shagreened; face sparsely, finely punctate, nearly twice as wide as long; clypeus about twice as broad as long, convex with a small impression on each side at apex, broadly germinate; malar space half as long as basal width of mandible; eyes slightly convergent below, about as long as width of face, slightly sinuate opposite antennae; diameter of ocellus less than length of postocellar line, latter equal to ocell-ocular line; scape thick, scarcely oblique at apex; flagellum slightly attenuate at base and apex, first joint a half longer than second, joints beyond middle a third longer than thick; thorax laterally subopaque shagreened and sparsely punctate, mesopleura more or less striate above; mesooutum subpolished and more distinctly punctate; notauli obsoletely impressed anteriorly; propodeum short, declivous behind, opaque, without earinae except the obsolete lateral longitudinal, distinctly separated from metapleura, spiracles small round; stigma narrow lanceolate, radius far before middle; radial cell measured on metacarpus equal in length to stigma; areolet oblique subtriangular, subsessile; nervulus postfurcal; nervellus slightly inclivous, broken slightly below middle; legs long, slender, hind tibia as long as femur and trochanter together, basitarsus nearly as long as rest of tarsus, longer ealarium nearly half as long as basitarsus; abdomen stout, compressed at extreme apex, opaque basally, polished apically; first tergite a half longer than wide at apex, sides nearly straight, with a median longitudinal impression, dorsal earinae strong at base, lateral earinae distinct to spiracles, latter in middle; second and third tergites subequal in length; tergites beyond fifth retracted.

Black; abdomen, except first tergite, rufous; legs largely testaceous; face at sides, clypeus, mandibles, palpi, spots at origins of notauli, tegulae, humeral and ventral angles of pronotum, spot below tegula, and posterior margin of mesopleura yellow; antennae brown above, reddish below; scutellum

piceous medially; first tergite reddish piceous at apex and sides; hind tibia yellow, broadly fuscous at apex, calcaria yellow; hind tarsus fuscous, paler at apex; wings hyaline, venation brown.

Host.—Spruce sawfly.

Type-locality.—Aweme, Manitoba.

Type.—Cat. No. 22202, U. S. N. M.

Described from two females reared May 31 and June 1, 1915, by N. Criddle.

The paratype has the yellow color much more extensive, including two broad longitudinal stripes on the face coalescing laterally with the orbital marks, malar space and cheeks, and most of propleura; scutellar spot also yellow.

***Hyposoter fugitivus* variety *pacificus*, new variety.**

Differs constantly from the typical *fugitivus* in color as follows:

Female.—Legs darker testaceous, almost brown, front coxae and front and middle trochanters testaceous instead of white; femora only very obscurely tipped with white, the hind femur also only obscurely infuscate subapically; hind tibia with a distinct brownish ventral stripe in the larger white annulus; basal annulus of hind tarsus occupying only about a fourth of the basitarsus; apical third of tibial spurs brownish; humeral angle of pronotum brownish instead of whitish.

Male.—Differs from female in having the legs paler, the front coxae and front and middle trochanters whitish; hind basitarsus with white annulus almost wanting. From male of the typical *fugitivus* it differs in having the middle coxae testaceous, by the small tarsal annulus, and by the darker humeral angle of pronotum.

Type host.—*Malacosoma pluvialis* Dyar.

Other host.—*Malacosoma ambisimillis* Dyar.

Type-locality.—Takoma, Washington.

Other localities.—San Francisco Co., California; Monterey Co., California; Santa Cruz Mts., California.

Type.—Cat. No. 22146, U. S. N. M.

Described from two females and one male (Bureau of Entomology No. 568°) from the type-locality and type host, one female from San Francisco Co. (Bureau of Entomology No. 360°) evidently reared from a species of *Malacosoma*, one female from Monterey Co. (Bureau of Entomology No. 415°) from *Malacosoma ambisimilis* Dyar, one male, the allotype (Bureau of Entomology No. 415°) from Santa Cruz Mts. from *Malacosoma ambisimilis*, and one female without locality and bearing only the number 368 and the host remains. All but the last were reared by Albert Koebele.

Apanteles iselyi, new species.

Closely allied to *Apanteles* (*Pseudopanteles*) *etiellae* Viereck. It is, however, noticeably smaller and differs from that species especially in having the whole dorsum of the abdomen, except at extreme apex, opaque though with only sparse and vague sculpture.

Female.—Length 2.5 mm.; antennae 2.0 mm.

Head slightly wider than long; face and clypeus at base subpolished with rather coarse punctures; temples strongly, convexly sloping; coarsely, densely punctate; polished area of occiput extending triangularly onto vertex nearly to ocelli; mesoscutum densely, finely, opaquely punctate; scutellum polished, with uniform separated punctures, its lateral furrows crenulate and lateral areas polished impunctate; mesopleura densely, rather coarsely punctate, opaque; propodeum basally and medially opaque without distinct sculpture except medially where it has a distinct longitudinal carina flanked by short radiating rugae, laterally at apex polished; metapleura posteriorly opaque with scattered punctures; femora shagreened; abdomen dorsally opaque but not distinctly sculptured, apical tergites polished; first tergite very narrow at apex, arcuately widening toward base; second tergite very small, fully four times as wide as long; ovipositor sheath twice as long as first tergite, in side view long clavate.

Black; tegulae transparent, pale yellowish; palpi pale; wings milky hyaline, stigma and metacarpus dark brown, other veins pale; legs black, front and middle femora at apex, front tibiae and tarsi, middle and hind tibiae except at apex, and middle tarsi at base testaceous; calcaria white.

Male.—Length 2.0 mm.; antennae 3.0 mm.

Differs principally in having the scutellum polished medially and the dark color of all tibiae extending farther basally.

Host.—*Canarsia hammondi* Riley.

Type-locality.—Bentonville, Arkansas.

Type.—Cat. No. 22147, U. S. N. M.

Described from two females and two males reared October 8–10, 1918, under Quaintance No. 16356, by Dwight Isely, for whom the species is named.

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